# Phone Skope focuses on Photocentric LC Magna solution to solve manufacturing challenge

## // PHONE SKOPE

Digiscoping leader, Phone Skope, has adopted a Photocentric additive manufacturing solution to manufacture its custom-moulded digiscoping adaptors. The US-based manufacturer makes precision engineered adaptors for almost any smartphone, enabling a smartphone camera to capture enhanced images and video through a scope for birding, wildlife, microbiology and astrology applications. The Photocentric additive manufacturing solution – carried out via manufacturing service provider partner Merit3D – includes Photocentric LC Magna printers and post-processing units, allowing adaptors to be modelled and created at speed without the need for costly and time-consuming moulding.

## // A FAST-MOVING MARKET

"Phone Skope's manufacturing was challenged by the fast-moving nature of the market, requiring its products to be compatible with a huge number of new phone models released every year," says Sally Tipping, Photocentric. "In order to create a compatible digiscoping adaptor for a particular phone model, a mould would have to be created for each new case, and there was always a chance that the phone itself may not be a commercial success. This meant that Phone Skope had to choose between which models to support and create moulds for in order to maintain viability. 3D printing was an excellent solution to this problem, giving Phone Skope the flexibility to bring a greater variety of adaptors to market at speed without the cost implications of creating additional moulds. Phone Skope products are renowned around the world for their precision and durability, and so it was also vital that these characteristics were retained without compromise."
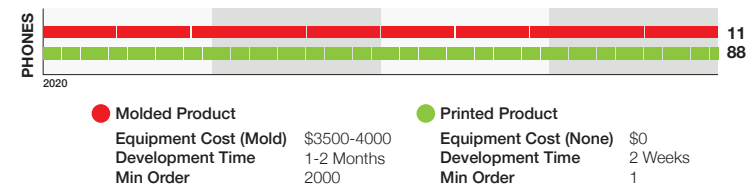
## PHOTOCENTRIC AND LC MAGNA – THE PERFECT SOLUTION

To produce the cases, Merit3D used its 8 Photocentric LC Magna printers and Photocentric post-processing units, the Air Wash L and Cure L2 units. Merit3D also chose Photocentric's Daylight Magna Duramax resin. Phone Skope's design is a simple two-part system that is interchangeable and works with most smartphone and optics combinations. With just a couple of small design changes to the 3D model, a new case could be designed and printed at a large scale with minimal revisions required using additive manufacturing. This reduced upfront costs and increased the production time considerably, with consistent high-quality output. "The speed and agility of additive manufacturing has given us the ability to expand coverage for more phones giving us a larger market to pursue," says Jason Bairett, Operations Manager, Phone Skope.

Photocentric's Studio software and 4D-additive was also used to incorporate the supports required for printing into the actual design of the cases. Depending on the size of the finished product, a single Magna platform could accommodate up to 52 cases. Following a simple workflow within its manufacturing facility, the completion time for each of the orders ranged from 1 to 2 days. The new solution allowed thousands of dollars in equipment costs to be saved on creating a moulding, and times to create a new case model design has also been slashed from 1-2 months to just two weeks. Thanks to the AM solution, a previous minimum order of 2000 units (in order to be viable) was also completely removed.

The LC Magna suits a wide range of manufacturing applications, offering significant print speed, build volume and cost advantages. Merit 3D also knew that the high-quality prints produced by the LC Magna would significantly reduce the time spent on final finishing thereby further reducing cost and increasing speed to market.

## DEVELOPMENT TIME

PHONES
2020
11
88

● Molded Product
| | |
|---|---|
| Equipment Cost (Mold) | $3500-4000 |
| Development Time | 1-2 Months |
| Min Order | 2000 |

● Printed Product
| | |
|---|---|
| Equipment Cost (None) | $0 |
| Development Time | 2 Weeks |
| Min Order | 1 |

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**Jason Bairett**
*Operations Manager, Phone Skope.*


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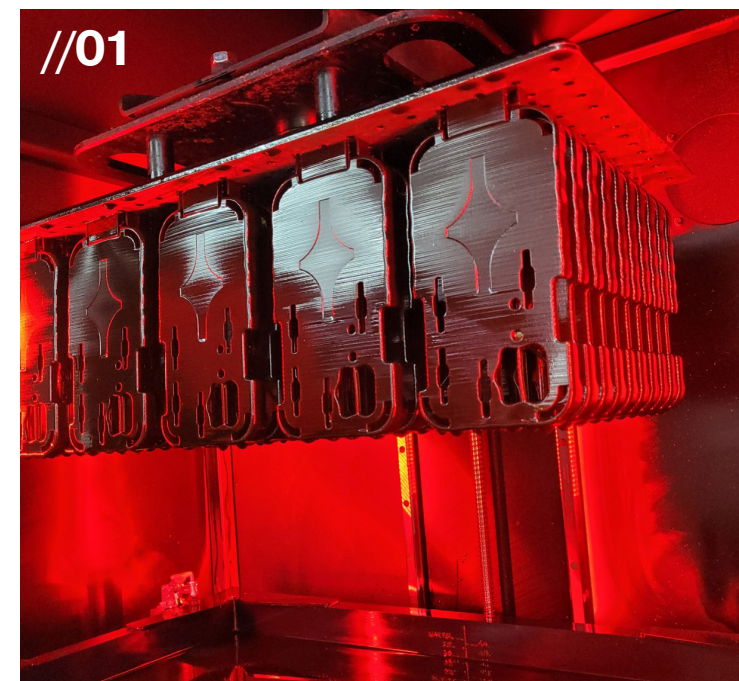
*Images of parts being printed on LC Magna and pack*

## Final Parts

### EQUIPMENT LIST

- LC Magna x 8
- Wash L2
- Cure L1
- Cure L2
- Resin: Daylight Magna Duramax

*1. Galaxy Note 10 (Carbon Fiber Texture, with printing support),*  *2. Galaxy Note 10 (Topographic Texture, with printing support)*  *3. Galaxy Note 10 +*  *4. Pixel 5*